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CASE REPORT

BEHIND THE MASK: UNCOVERING MAXILLARY SINUS CARCINOMA- A CASE REPORT

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Abstract

Maxillary sinus carcinoma is a rare malignancy that poses significant diagnostic and therapeutic challenges. They are often discovered in advanced stages as the early stages present with no or minimal symptoms. They are associated with deleterious habits or environmental risk factors. Here, we report a challenging case highlighting its aggressive nature and discuss the clinical and radiological features of this rare entity.

Introduction:-

Antral malignancies are relatively uncommon tumors located in the head and neck area. They represent 0.2% of all malignant tumours and account for merely 1.5% of all malignant neoplasms within the head and neck region.Approximately 60% to 70% of these carcinomas are located within the maxillary sinus[1]. It is regarded as a disease with a poor prognosis, as it is often diagnosed at advanced stages. [2] Environmental factors, including industrial pollutants, dust, smoke, and adhesives, are significant contributors to the disease's development.[3] The choice of treatment modality is crucial in influencing the prognosis for patients with squamous cell carcinoma of the maxillary sinus. This type of carcinoma is characterized by its aggressive nature, leading to a generally unfavourable prognosis and diminished survival rates for most patients.[4]

Clinical Findings

A 27-year-old male patient reported to the department with the chief complaint of swelling on left side of face since 15 days and pain in the upper left back region of jaw since 8 days. Patient was apparently alright 15 days back then he noticed swelling on left middle 1/3 rd and lower 1/3 rd of face and intra-oral swelling in maxillary left posterior region of jaw which was initially smaller and went on increasing to the present size and 4 days later he noticed bulging of left eye with watery discharge followed by pain. No H/o of fever, weight loss, trauma, toothache, pus discharge or difficulty in swallowing. Tobacco chewing with slaked lime 7-8 times a day since 15 years with site of placement in mandibular left buccal vestibule. H/O drinking alcohol once daily since 3 years and cigarette smoking since 3 years infrequently. Family history, medical history or dental history were non-contributory. On extra oral examination (Figure 1) a solitary diffuse swelling present on the middle and lower left 1/3 rd of face extending superiorly from ala of nose, inferiorly up to lower border of mandible. Anteriorly, from the level of middle canthus of eye, posteriorly 4 cms away from ear. 7* 5 cms in dimensions. Facial asymmetry was noted. Overlying and surrounding skin was normal. No obvious discharge, restricted protrusive tongue movements and restricted mouth

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opening 18mm (inter-incisal distance). Obliteration of left nasolabial fold was noted. Ecchymosis seen under left eye with proptosis of left eye. All inspectory findings were confirmed. Tender on palpation, surface temperature was normal and left submandibular lymph nodes were fixed and palpable.

On intra-oral examination, there was a reddish white proliferative growth present extending on buccal aspect anterior-posteriorly from mesial aspect of 26 up to distal aspect of 27, superioinferiorly from marginal gingiva w r t 27 up to mucobuccal fold (2*3 cms). Palatal aspect (Figure 2) – Lobulated swelling which was medially 3 cms away from midpalatine raphe upto occlusal 1/3 rd of the teeth and anterio-posteriorly from mesial aspect of 23 upto maxillary tuberosity. Rolled out borders present with white slough at the centre. 4*5 cms in dimensions. Tender on palpation, indurated, bleeding on provocation present, grade II mobility with 27. The provisional diagnosis made was malignant growth present on left alveolar mucosa and palatal mucosa w r t 23 to 27, extending on left maxillary tuberosity.

Diagnostic Assessment
Radiographic Investigations
OPG revealed (ZONE 2) discontinuity in the floor of left maxillary sinus w rt 26,27, left maxillary tuberosity and left lateral pterygoid plate with haziness of left maxillary sinus.

CBCT revealed obliterated / hyper dense region on left side maxillary sinus. Partial loss of the walls of left side maxillary sinus, medial and lateral pterygoid plates. Erosion with nasal septum, inferior and middle meatues. Root resorption noted with 26 and 27 apical third region. Features suggestive of neoplasm/ malignancy with left side maxillary sinus.

CT - Paranasal sinus (Plain+ contrast) (Figure 3) revealed a large lobulated irregular heterogeneous mixed attenuation lesion measures 9.5x7.2x7.0 cm, showing osseous as well as soft tissue areas, the lesion was centered along the anterior base of the skull extends along the ethmoid group of sinuses, clivus , left sphenoid bone, maxillary alveolus, also involves left maxillary sinus eroding the sinus walls, protruding into the left orbit into the extraconal compartment with resultant proptosis, erodes the left pterygoid bone and infiltrates the muscles of left masticator space and protrudes externally into subcutaneous fat along the left cheek, left buccal space, displacing the adjacent structures and also extends into the left temporal region, compresses the left parapharyngeal space displacing the carotid vessels with preserved fat plane and the nasal cavity and displaces the nasal septum on right side. No discrete intracranial extension of the mass seen. Likely an aggressive lesion probably neoplastic.

Laboratory Investigations
CBC, Bt, Ct, HbsAg, HIV and BSL were carried out which were within normal limits further incisional biopsy was advised .

Histopathological Reports
H and Estained section showed invading malignant squamous cells in sheets and islands showed high degree of hyperchromatism, pleomorphism mitotic figures with inflammatory infiltrate.

Final diagnosis made was moderately differentiated oral squamous cell carcinoma of alveolar mucosa w r t 23 – 27, palatal mucosa, left maxillary tuberosity, sinuses, left orbit.

Surgical Intervention
Multidisciplinary approach including surgery and chemoradiation was planned.

Discussion:-

Countries in Asia have reported a notably higher incidence rate, especially among men in their fifties and sixties, in present case, patient in his late twenties reported with this malignancy [1].Factors commonly linked include cigarette smoking, nickel exposure, formaldehyde, and dust from wood and textiles as in our case deleterious habit contributed to its etiology[5].Interestingly, a considerable number of patients, around 9–12%, could remain asymptomatic, but our patient was symptomatic due to lesion being in its advanced stage[6]. Since all the walls of maxillary sinuses and orbit had been affected so clinical features such as deviated nasal septum, swelling of the palate, alveolar process, swelling of the face and vestibule accompanied by pain and increased sensitivity in the maxillary teeth,loose teeth, proptosis , watery eyes and painful trismus were noticeable.[4, 7] Evidence is based on

observations of changes in the adjacent bone, the walls of the sinus, and the alveolar bone. The internal appearance of the maxillary sinus displayed a radiopaque structure resembling soft tissue. As it was enlarged lesion, it destroyed sinus walls and caused irregular radiolucent areas in the surrounding bone. Frequently the medial wall of the maxillary sinus is thinned or destroyed, although there may also be destruction of the floor, or the medial or posterior walls and destruction of the nasal cavity outline which also happened in our case. On CT, the most characteristic sign of malignancy is invasion into the adjacent soft tissue spaces. MRI is excellent for revealing the extent of soft tissue penetration into adjacent structures and in differentiating an accumulation of mucus from the soft tissue mass of the neoplasm, patient was not willing to do MRI so CT was done for visualization of the invasion of structures beyond site of origin.[7]

The optimal management of carcinoma originating in the maxillary sinus remains unclear but is based on TNM staging along with radiographic imaging[8].Treatment strategies encompass surgery, radiation therapy, and both systemic and topical chemotherapy, utilized in various combinations and sequences based on this surgery along with chemoradiation was planned. Malignancies of the maxillary sinus are associated with a poor prognosis, as evidenced by a five-year cause-specific survival rate of 43% and an overall survival duration of 52 months. [9]Based on Ohngren category for prognosis as it did not have any perineural invasion it had more favourable prognosis. [8]

Conlcusion:-

This was the case of rare malignancy of maxillary sinus, which stressed on the fact that its prevalence does not depend upon the age but can occur at any age.It is the role of every patient to approach the physician as soon as the onset of any of the symptoms before being too late in the diagnosis. Also, it is essential for the physicians to remain vigilant and consider this carcinoma in the differential diagnosis for any malignancy related to the head and neck region. Despite the best efforts of physicians, patient avoidance or delay in treatment can lead to poor outcomes.

Figure 1:- This is the front profile of the patient illustrating the extra oral swelling on the left middle and lower one third of the face and proptosis and watery discharge in left eye.

Figure 2:- This is the intra oral photograph of the patient illustrating the lobulated swelling on the palatal aspect.

Figure 3:- This is the coronal view of CT scan of face illustrating the extent of the lesion

References:-

1.Bhambal AM, Bhambal A, Ingle E, Ingle NA. Malignancy of the maxillary antrum: A case report. Journal of Indian Academy of Oral Medicine and Radiology. 2020 Oct 1;32(4):408-10.
2.Pinto MR. Carcinoma of maxillary sinus mimicking a deep fungal infection-a rare case report. Journal of Orofacial Research. 2020;9(1):11-3.
3.Gaikwad R, Deshmukh P, Sathawane R, Lanjekar A. Maxillary Antrum Carcinoma--A Wolf in Sheep's Clothing. Journal of Evolution of Medical and Dental Sciences. 2021 Aug 16;10(33):2870-4.
4. Khanum N, Basappa SB, Kanwar S. A case of maxillary sinus carcinoma: An occult aggressive entity. Indian Journal of Case Reports. 2018 Dec 27;4(6):503-5.
5. Sahoo AK. Squamou Cell Carcinoma Maxillary Sinus: A Case Report. Journal of Advanced Research in Medicine (E-ISSN: 2349-7181 & P-ISSN: 2394-7047). 2020;7(2):25-6.
6. Bailey BJ, Johnson JT, Newlands SD, editors. Head & neck surgery--otolaryngology. Lippincott Williams & Wilkins; 2006.
7. White SC, Pharoah MJ. Oral radiology: principles and interpretation. Elsevier Health Sciences; 2013 Dec 12.
8. Souza RP, Cordeiro FD, Gonzalez FM, Yamashiro I, Paes Junior AJ, Tornin OD, Botelho RA, Leite CD, Barros CV, Aquino IM, Macedo LL. Maxillary sinus carcinoma: an analysis of ten cases. Radiologia Brasileira. 2006;39:397-400.
9. Jham BC, Mesquita RA, Aguiar MC, do Carmo MA. A case of maxillary sinus carcinoma. Oral Oncology Extra. 2006 Apr 1;42(4):157-9.